REMARKS

This responds to the Office Action mailed on February 16, 2006, and the references cited therewith.

Claim 23 is amended, and no claims are canceled or added; as a result, claims 1-27 remain pending in this application.

Specification

Page 2 of the specification is amended to provide missing data, as required.

Claim Objections

Claim 23 has been amended as required. This amendment places a period at the end of the claim to correct a typographical error when filing the application. This amendment is not intended to modify the scope of the claim.

Drawings

The drawings were objected to as being informal. Formal drawings are filed herewith.

§112 Rejection of the Claims

Claims 7, 11, 15, and 24 were rejected under 35 U.S.C. § 112, first paragraph, as lacking adequate description or enablement. Applicant respectfully traverses this rejection and submits that the description is enabling.

In rejecting these claims, the Office Action asserts that "there is no disclosure of what the sequence of numbers can or has to be, or what their intended purpose is." However, Applicant respectfully traverses this assertion and submits that enablement for the sequence of numbers is contained throughout the description and figures of the application. For example, Applicant directs the Examiner's attention to the paragraph beginning on line 1 of page 8; page 13, lines 1-6, and FIG. 1A, vectors V_{SEQ0} and V_{SEQI}. These portions of the application and figures describe and illustrate example embodiments including a sequence of numbers. Further, FIG. 1 illustrates

an embodiment showing and a use of the sequence of numbers to identify duplicative values in the second vector 112 of operand values.

Thus, Applicant respectfully submits that claims 7, 11, 15, and 24 are fully enabled within the application. Reconsideration and withdrawal of the 35 U.S.C. § 112, first paragraph rejection of these claims is respectfully requested.

§103 Rejection of the Claims

Claims 1-4, 14, 16-18 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beard et al. (US 5,640,524; hereinafter "Beard") in view of Bruckert et al. (US 5,068,851; hereinafter "Bruckert").

Applicant respectfully traverses the combination of Beard in view of Bruckert for two reasons. First, the Office Action has failed to provide objective evidence of record of a motivation or suggestion to combine the references. Second, if the combination is made, the combination fails to teach or suggest the entirety of the claims.

When combining references, the Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

In combining the references, the Office Action provides:

> "Bruckert teaches comparing two values, one from a primary source, and one from a secondary source, to verify if the data is in agreement (Column 13, Lines 9-57). One of ordinary skill in the art would realize the advantage of verifying correct data is being able to recognize if an instruction(s) need to be re-executed, and duplicate data would infer that something unplanned and thus incorrect has occurred. Therefore, one of ordinary skill in the art at the time the invention was made would have been able to attach an error-detecting mechanism such as Bruckert's to Beard's invention." Paragraph beginning at the bottom of page 5.

The question is not whether one of skill in the art would be able to make the invention of applicant's claims. Rather, the question is if the references themselves provide a motivation or suggestion to make the combination. The recited portion of the Office Action above merely provides a conclusory statement of subjective belief and fails to provide required objective evidence of a motivation or suggestion to make the combination.

Further, the statement, "One of ordinary skill in the art would realize. . . ." is based on the personal knowledge of the Examiner. Because this statement, or any information supporting it, is not found in any of the references of record, Applicant assumes that the Examiner is taking official notice regarding the motivation to combine the references. Applicant respectfully objects to the taking of official notice and, pursuant to M.P.E.P. § 2144.03, Applicant respectfully traverses the assertion of Official Notice and requests that the Examiner cite references in support of this position.

However, even if the references are combinable, the combination fails to teach or suggest the entirety of the claims. For example, claim 1 recites in part:

"(c)   determining which, if any, element addresses of the first vector register have a value that duplicates a value in another element address; and
(d)   selectively adding certain elements of the second vector of operand values based on the element addresses the duplicated values;"

The Office Action admits on page 5 that Beard fails to teach the "determining." Thus, because Beard fails to teach the determining, Beard also fails to teach "selectively adding certain elements of the second vector of operand values *based on the element addresses the duplicated values.*" *Emphasis* added.

Bruckert is provided to show the "determining," but not the "selectively adding. . . based on the element addresses the duplicated values." Applicant is unable to locate a teaching or suggestion of the "selectively add . . . based on the element addresses the duplicated values" in either Beard or Bruckert.

Further, Applicant is unable to locate a teaching or suggestion of the "determining which, if any, element addresses of the first vector register have a value that duplicates a value in another element address" in Bruckert. The cited portion of Bruckert, column 13, lines 9-57, describes using a comparator, address control/error signals, status registers, for use in comparing. However, there is no teaching or suggestion of identifying duplicative element addresses in a single (first) vector, as claimed, or using the comparator to do so.

Thus, Applicant respectfully submits that claim 1 is patentable over the combination of Beard in view of Bruckert because the Office Action fails to provide the required objective evidence of a motivation or suggestion to make the combination and because the combination, if made, fails to teach or suggest the entirety of the claim.

Independent claims 14 and 27 include similar elements as claim 1 and are also patentable over the combination of Beard in view of Bruckert because the Office Action fails to provide the required evidence of a motivation or suggestion to make the combination and because the combination, if made, fails to teach or suggest the entirety of the claim.

Claims 3-4 and 16-18 depend on claims 1 and 14, respectively, and are patentable over Beard and Bruckert at least for the reasons argued above. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is also nonobvious. MPEP § 2143.03.

Thus, Applicant respectfully requests reconsideration and allowance of claims 1-4, 14, 16-18 and 27.

Claims 5-6, 8-11, 13, 19-24 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beard et al. (US 5,640,524; hereinafter "Beard") in view of Bruckert et al. (US 5,068,851; hereinafter "Bruckert"), in view of Patterson et al. (*Computer Architecture: A Quantitative Approach*, 2d Ed., 1996, pp. 699-708)(hereinafter "Patterson").

Claims 5-6 and 19-20 depend on patentable independent claims 1 and 14, respectively, and are patentable at least for the reasons argued above. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is also nonobvious. MPEP § 2143.03.

Independent claim 8 includes similar elements as claim 1 and is rejected on the same grounds plus the addition of Patterson to teach synchronization operations. However, Patterson fails to cure the deficiencies of Beard and Bruckert. Thus, independent claim 8 is patentable over the combination of Beard in view of Bruckert and Patterson because the Office Action fails to provide the required evidence of a motivation or suggestion to make the combination of Bruckert with Beard and because the combination, if made, fails to teach or suggest the entirety of the claim.

Independent claim 21 includes similar elements as claim 8 and is also patentable over the combination of Beard in view of Bruckert and Patterson because the Office Action fails to provide the required evidence of a motivation or suggestion to make the combination of Bruckert

with Beard and because the combination, if made, fails to teach or suggest the entirety of the claim.

Claims 9-11 and 13 and 22-24 and 26 depend on patentable independent claims 8 and 21, respectively, and are patentable over Beard, Bruckert, and Patterson for at least the same reasons. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is also nonobvious. MPEP § 2143.03.

Thus, Applicant respectfully requests reconsideration and allowance of claims 5-6, 8-11, 13, 19-24 and 26.

Claims 7 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beard et al. (US 5,640,524; hereinafter "Beard") in view of Bruckert et al. (US 5,068,851; hereinafter "Bruckert"), in view of Ernst et al. ("Cyclone: A Broadcast-Free Dynamic Instruction Scheduler with Selective Replay", *30th Annual International Symposium on Computer Architecture* (ISCA-2003), June 2003)(hereinafter "Ernst").

First, although Applicant has chosen to address the merits of the claim 7 and 15 rejections, Applicant reserves the right to swear behind Ernst at a later date.

Second, claims 7 and 15 depend on patentable independent claims 1 and 14, respectively, and are patentable for at least the same reasons. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is also nonobvious. MPEP § 2143.03.

Third, Applicant respectfully traverses the combination of Beard, Bruckert, and Ernst.

In combining the references, the Office Action provides:

> "Ernst teaches selectively replaying instructions that have an invalid bit set (Section 2.4). One of ordinary skill in the art would recognize that selectively replaying instructions means that you would only operate on values that were specified as needing to be replayed, IE, those locations that had a positive compare. Therefore, one of ordinary skill in the art at the time the invention was made would have implemented a selective replay method such as Ernst's in Beards invention to increase performance." Paragraph beginning at the top of page 27.

The question is not whether one of skill in the art would be able to make the invention of applicant's claims. Rather, the question is if the references themselves provide a motivation or suggestion to make the combination. The recited portion of the Office Action above merely

provides a conclusory statement of subjective belief and fails to provide required objective evidence of a motivation or suggestion to make the combination.

Further, although bettering performance is a common motivation for making modifications, there must be a reasonable expectation of success in making the combination. The reasonable expectation of success must be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. Thus, it appears the Office Action is using impermissible hindsight based on Applicant's disclosure for a finding of a likelihood of success in making the combination.

Applicant respectfully submits that claims 7 and 15 are patentable over the combination of Beard, Bruckert, and Ernst because the claims depend from patentable independent claims, because the combination of references fails to teach or suggest the entirety of the claims, and because there is no motivation or likelihood of success in combining the references.

Thus, Applicant respectfully requests reconsideration and allowance of claims 7 and 15.

Claims 12 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beard et al. (US 5,640,524) in view of Bruckert et al. (US 5,068,851) and Patterson et al. (*Computer Architecture: A Quantitative Approach*, 2d Ed., 1996, pp. 699-708)(hereinafter "Patterson"), in view of Ernst et al. ("Cyclone: A Broadcast-Free Dynamic Instruction Scheduler with Selective Replay", *30th Annual International Symposium on Computer Architecture* (ISCA-2003), June 2003)(hereinafter "Ernst").

Applicant respectfully submits that claims 12 and 25 are patentable over the combination of Beard, Bruckert, Patterson, and Ernst because the claims depend from patentable independent claims 8 and 21, respectively.

Thus, Applicant respectfully requests reconsideration and allowance of claims 12 and 25.

<u>Documents Cited but Not Relied upon for this Office Action</u>

Applicant need not respond to the assertion of pertinence stated for the references cited but not relied upon by the Office Action since these references are not made part of the rejections in this Office Action. Applicant is expressly not admitting to this assertion and reserves the right to address the assertion should it form part of future rejections.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6909 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this __15__ day of June, 2006.

_____CANDIS BUENDING_____   _____[signature]_____
Name   Signature